10/19/03

```
=> File .Biotech
=> s (elastin or lamprin or fibrous (1) protein or peptide or polypeptide)
L1      1409487 (ELASTIN OR LAMPRIN OR FIBROUS (L) PROTEIN OR PEPTIDE OR POLYPEP
                TIDE)

=> s l1 and (beta sheet or beta turn (1) structure#)
L2         16383 L1 AND (BETA SHEET OR BETA TURN (L) STRUCTURE#)

=> s l2 and (cosmetic material)
L3             5 L2 AND (COSMETIC MATERIAL)

=> d l3 1-5 bib ab

L3     ANSWER 1 OF 5  BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT/ISI on STN
AN     2001-05398  BIOTECHDS
TI     Novel polypeptides that comprise three beta-sheet/
       beta-turn structures and are not naturally
       occurring fibrous protein, used to produce prosthesis
       suitable for implantation into humans, and cosmetic materials;
          vector-mediated human elastin minimal functional unit gene
          transfer and expression in host cell for recombinant protein
          production and prosthesis transplant
AU     Rothstein A; Keeley F; Rothstein S; Stahl R
PA     Protein-Specialities; HSC-Res.Develop.
LO     Toronto, Ontario, Canada.
PI     WO 2001000666 4 Jan 2001
AI     WO 2000-US17829 29 Jun 2000
PRAI   US 1999-340736 29 Jun 1999
DT     Patent
LA     English
OS     WPI: 2001-102886 [11]
AB     A minimal functional unit (MFU) of human elastin
       protein (I) containing a 671 amino acid protein
       sequence (S1, specified), is claimed.  (I) has at least three
       beta-sheet/beta-turn
       structures and at least 1 amino acid residue that precipitates in
       cross-linking.  (I) is not a naturally occurring fibrous
       protein.  Also claimed is producing a protein by:
       expressing in a cell a protein containing: a domain that
       enhances the solubility of the protein; a domain that has at
       least three beta-sheet/beta-turn
       structures and at least 1 amino acid residue that precipitates in
       cross-linking and is not a naturally occurring fibrous
       protein; and a methionine or aspartic acid residue positioned
       between the domains; harvesting the cell; and treating the cell with CNBr
       or a weak acid which cleaves the protein at each occurrence of
       a methionine residue in the protein.  (I) is useful in a
       cosmetic material or a prosthetic material such as
       prosthesis for implantation into humans.  (39pp)

L3   ANSWER 2 OF 5  USPATFULL on STN
AN     2003:238688  USPATFULL
TI     Self-aligning peptides modeled on human elastin and other
       fibrous proteins
IN     Rothstein, Aser, Toronto, CANADA
       Keeley, Fred, Toronto, CANADA
       Rothstein, Steven, Clive, IA, UNITED STATES
PI     US 2003166846      A1   20030904
AI     US 2001-964662     A1   20010928 (9)
RLI    Division of Ser. No. US 1999-340736, filed on 29 Jun 1999, GRANTED, Pat.
       No. US 6489446 Continuation-in-part of Ser. No. US 1997-911364, filed on
       7 Aug 1997, GRANTED, Pat. No. US 5969106
PRAI   US 1996-23522P      19960807 (60)
DT     Utility
```

FS APPLICATION
LREP FOLEY AND LARDNER, SUITE 500, 3000 K STREET NW, WASHINGTON, DC, 20007
CLMN Number of Claims: 26
ECL Exemplary Claim: 1
DRWN 6 Drawing Page(s)
LN.CNT 1005
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A **polypeptide** is provided that has a secondary **structure** characterized by at least three **beta-sheet/beta-turn structures**, and that is not a naturally occurring **fibrous protein**. Such polypeptides, illustrated by one modeled on **elastin**, are useful in prosthesis.

L3 ANSWER 3 OF 5 USPATFULL on STN
AN 2002:317499 USPATFULL
TI Self-aligning peptides modeled on human **elastin** and other fibrous proteins
IN Rothstein, Aser, Toronto, CANADA
Keeley, Fred, Toronto, CANADA
Rothstein, Steven, Clive, IA, United States
PA HSC Research and Development Limited Partnership, Toronto, CANADA (non-U.S. corporation)
Protein Specialties, Ltd., Toronto, CANADA (non-U.S. corporation)
PI US 6489446 B1 20021203
AI US 1999-340736 19990629 (9)
RLI Continuation-in-part of Ser. No. US 1997-911364, filed on 7 Aug 1997, now patented, Pat. No. US 5969106
PRAI US 1996-23522P 19960807 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Carlson, Karen Cochrane; Assistant Examiner: Mohamed, Abdel A.
LREP Foley & Lardner
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 13 Drawing Figure(s); 6 Drawing Page(s)
LN.CNT 1216
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A **polypeptide** is provided that has a secondary **structure** characterized by at least three **beta-sheet/beta-turn structures**, and that is not a naturally occurring **fibrous protein**. Such polypeptides, illustrated by one modeled on **elastin**, are useful in prosthesis.

L3 ANSWER 4 OF 5 USPATFULL on STN
AN 1999:128722 USPATFULL
TI Self-aligning peptides modeled on human **elastin** and other fibrous proteins
IN Rothstein, Aser, Toronto, Canada
Keely, Fred W., Toronto, Canada
Rothstein, Steven J., Guelph, Canada
PA The Hospital for Sick Children, Toronto, Canada (non-U.S. corporation)
Protein Specialties, Ltd., Toronto, Canada (non-U.S. corporation)
PI US 5969106 19991019
AI US 1997-911364 19970807 (8)
PRAI US 1996-23552P 19960807 (60)
DT Utility
FS Granted
EXNAM Primary Examiner: Tsang, Cecilia J.; Assistant Examiner: Mohamed, Abdel A.
LREP Foley & Lardner
CLMN Number of Claims: 22
ECL Exemplary Claim: 1

DRWN 10 Drawing Figure(s); 5 Drawing Page(s)
LN.CNT 1193
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A **polypeptide** is provided that has a secondary **structure** characterized by at least three **beta-sheet/beta-turn structures**, and that is not a naturally occurring **fibrous protein**. Such polypeptides, illustrated by one modeled on **elastin**, are useful in prosthesis.

L3 ANSWER 5 OF 5 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2001-102886 [11] WPIDS
CR 2003-391056 [37]
DNC C2001-030171
TI Novel polypeptides that comprise three **beta-sheet/beta-turn structures** and are not naturally occurring **fibrous protein**, used to produce prosthesis suitable for implantation into humans, and cosmetic materials.
DC B04 D16 D21 D22 P34
IN KEELEY, F; ROTHSTEIN, A; ROTHSTEIN, S; STAHL, R
PA (HSCR-N) HSC RES & DEV LP; (PROT-N) PROTEIN SPECIALTIES LTD; (PROT-N) PROTEIN SPECIALITIES LTD
CYC 95
PI WO 2001000666 A2 20010104 (200111)* EN 39p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2000057754 A 20010131 (200124)
EP 1206492 A2 20020522 (200241) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
JP 2003510249 W 20030318 (200321) 47p
ADT WO 2001000666 A2 WO 2000-US17829 20000629; AU 2000057754 A AU 2000-57754 20000629; EP 1206492 A2 EP 2000-943258 20000629, WO 2000-US17829 20000629; JP 2003510249 W WO 2000-US17829 20000629, JP 2001-507072 20000629
FDT AU 2000057754 A Based on WO 2001000666; EP 1206492 A2 Based on WO 2001000666; JP 2003510249 W Based on WO 2001000666
PRAI US 1999-340736 19990629
AB WO 200100666 A UPAB: 20030612
NOVELTY - A minimal functional unit (MFU) of human **elastin polypeptide** (I), comprising a 671 residue amino acid sequence (S1), fully defined in the specification, is new. (I) comprises at least three **beta-sheet/beta-turn structures** and at least one amino acid residue that participates in cross-linking. (I) is not a naturally occurring **fibrous protein**.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) producing a **polypeptide**, comprising:

(a) expressing in a cell a **polypeptide** containing:

(i) a domain that enhances the solubility of the **polypeptide**;

(ii) a domain that comprises at least three **beta-sheet/beta-turn structures** and at least one amino acid residue that participates in cross-linking, and that is not a naturally occurring **protein**; and

(iii) a methionine residue positioned between the domains;

(b) harvesting the cell; and

(c) treating the cell with cyanogen bromide (CNBr), which cleaves the **polypeptide** at each occurrence of a methionine residue in the **polypeptide**; and

(2) producing a **polypeptide**, comprising:

(a) expressing in a cell a **polypeptide** containing:
(i) a domain that enhances the solubility of the **polypeptide**
;
(ii) a domain that comprises at least three **beta-sheet/beta-turn structures** and at
least one amino acid residue that participates in cross-linking, and that is not a naturally occurring **protein**, in which the N-terminus of the second comprises a proline residue, and
(iii) a aspartic acid residue positioned between the domains, in which the aspartic acid residue forms a **peptide** bond with the proline residue;
(b) harvesting the cell; and
(c) treating the cell with a weak acid which cleaves the **polypeptide** at each occurrence of an aspartic acid-proline **peptide** bond.

USE - (I) is useful in a **cosmetic material** or a prosthetic material such as prosthesis for blood vessel replacements, for heart valve replacement, tissue replacement, for covering burns, for covering wounds and stents. Alternatively, the prosthesis comprises an animal, synthetic material or a metal whose surface is coated with the **polypeptide**. (I) used for **cosmetic material** comprises or consists of an amino acid sequence consisting of amino acid residues 374-499,19-160, 188-367 or 607-717 of (S1). Preferably, (I) comprises tandem repeats of a portion of (S1). (I) preferably comprises or consists (S2), (S3) or (S4) or a 200 residue amino acid sequence (MFU-2) (S5), fully defined in the specification, preferably comprising modifications of 1-10 amino acid residues. (All claimed). The materials made from the MFUs have high tensile strength, elasticity and plasticity of their parent proteins and are useful for making cords or ropes for use in parachutes.

ADVANTAGE - The MFUs as described excel in their ability to self assemble in an ordered manner. The human-like MFU material is more compatible that other **elastin** containing material used for prostheses. The MFU is a single **peptide** of defined composition, and is considerably smaller than the parent **protein** and simpler in **structure** and therefore is easier to produce or express in large quantity, to handle in solution, and to manipulate for experimental and practical purposes. The MFU is non-thrombogenic and provides a friendly environment for cell infiltration. Being composed entirely of a human **elastin** sequence, an MFU in non-immunogenic. Coating synthetic prosthesis with MFUs significantly inhibits platelet binding and activation. The MFUs are soluble, and exhibit the property of coacervation, aligning themselves in the same manner as the parent **protein**.

DESCRIPTION OF DRAWING(S) - The figure shows the domain **structure** of human **elastin**.

Dwg.1a/5

```
=> s Rothstein, A?/au
L4          685 ROTHSTEIN, A?/AU

=> s l2 and l4
L5           14 L2 AND L4

=> s Keeley, F?/au
L6          512 KEELEY, F?/AU

=> s l2 and l6
L7           20 L2 AND L6

=> s Rothstein, S?/au
L8          602 ROTHSTEIN, S?/AU

=> s l2 and l8
```

```
L9          14 L2 AND L8

=> s l2 and (l5 or l7 or l9)
L10         22 L2 AND (L5 OR L7 OR L9)

=> s l10 and (cros-link? or croslink? or conjugat?)
L11          0 L10 AND (CROS-LINK? OR CROSLINK? OR CONJUGAT?)

=> s l10 and (three beta-sheet or beta-turn (l)structures)
L12         18 L10 AND (THREE BETA-SHEET OR BETA-TURN (L) STRUCTURES)

=> dup rem l12
PROCESSING COMPLETED FOR L12
L13          6 DUP REM L12 (12 DUPLICATES REMOVED)

=> d l13 1-6 bib ab

L13  ANSWER 1 OF 6  USPATFULL on STN
AN     2003:238688  USPATFULL
TI     Self-aligning peptides modeled on human elastin and other
       fibrous proteins
IN     Rothstein, Aser, Toronto, CANADA
         Keeley, Fred, Toronto, CANADA
         Rothstein, Steven, Clive, IA, UNITED STATES
PI     US 2003166846      A1   20030904
AI     US 2001-964662     A1   20010928 (9)
RLI    Division of Ser. No. US 1999-340736, filed on 29 Jun 1999, GRANTED, Pat.
       No. US 6489446 Continuation-in-part of Ser. No. US 1997-911364, filed on
       7 Aug 1997, GRANTED, Pat. No. US 5969106
PRAI   US 1996-23522P      19960807 (60)
DT     Utility
FS     APPLICATION
LREP   FOLEY AND LARDNER, SUITE 500, 3000 K STREET NW, WASHINGTON, DC, 20007
CLMN   Number of Claims: 26
ECL    Exemplary Claim: 1
DRWN   6 Drawing Page(s)
LN.CNT 1005
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB     A polypeptide is provided that has a secondary
       structure characterized by at least three beta
       -sheet/beta-turn structures, and
       that is not a naturally occurring fibrous protein.
       Such polypeptides, illustrated by one modeled on elastin, are
       useful in prosthesis.

L13  ANSWER 2 OF 6  CAPLUS  COPYRIGHT 2003 ACS on STN  DUPLICATE 1
AN   2002:921898  CAPLUS
DN   138:16653
TI   Self-aligning peptides modeled on human elastin and other
     fibrous proteins
IN   Rothstein, Aser; Keeley, Fred; Rothstein,
     Steven
PA   HSC Research and Development Limited Partnership, Can.; Protein
     Specialties, Ltd.
SO   U.S., 21 pp., Cont.-in-part of U.S. 5,969,106.
     CODEN: USXXAM
DT   Patent
LA   English
FAN.CNT 3
     PATENT NO.         KIND  DATE          APPLICATION NO.  DATE
     ---------------    ----  --------      ---------------  --------
PI   US 6489446          B1   20021203      US 1999-340736   19990629
     US 5969106          A    19991019      US 1997-911364   19970807
     WO 2001000666       A2   20010104      WO 2000-US17829  20000629
     WO 2001000666       A3   20010503
```

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1206492	A2	20020522	EP 2000-943258	20000629	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL					
JP 2003510249	T2	20030318	JP 2001-507072	20000629	
US 2003166846	A1	20030904	US 2001-964662	20010928	
PRAI US 1996-23522P	P	19960807			
US 1997-911364	A2	19970807			
US 1999-340736	A2	19990629			
WO 2000-US17829	W	20000629			

AB A **polypeptide** is provided that has a secondary **structure** characterized by at least **three beta-sheet/beta-turn structures**, and that is not a naturally occurring **fibrous protein**. Such polypeptides, illustrated by one modeled on **elastin**, are useful in prosthesis.

RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
AN 2001:12490 CAPLUS
DN 134:91176
TI Self-aligning peptides derived from **elastin** and other fibrous proteins for use in prostheses
IN **Rothstein, Aser; Keeley, Fred; Rothstein, Steven**; Stahl, Richard
PA Protein Specialties Ltd., Can.; Hsc Research and Development Limited Partnership
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001000666	A2	20010104	WO 2000-US17829	20000629
WO 2001000666	A3	20010503		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6489446	B1	20021203	US 1999-340736	19990629
EP 1206492	A2	20020522	EP 2000-943258	20000629
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003510249	T2	20030318	JP 2001-507072	20000629
PRAI US 1999-340736	A2	19990629		
US 1996-23522P	P	19960807		
US 1997-911364	A2	19970807		
WO 2000-US17829	W	20000629		

AB A **polypeptide** is provided that has a secondary **structure** characterized by at least **three beta-sheet/**

beta-turn structures, and that is not a naturally occurring **fibrous protein**. Such polypeptides, illustrated by one modeled on **elastin**, are useful in prosthesis.

L13 ANSWER 4 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 3
AN 2000:277558 BIOSIS
DN PREV200000277558
TI Self-aligning peptides modeled on human **elastin** and other fibrous proteins.
AU **Rothstein, Aser** [Inventor, Reprint author]; Keely, Fred W. [Inventor]; **Rothstein, Steven J.** [Inventor]
CS Toronto, Canada
ASSIGNEE: The Hospital for Sick Children; Protein Specialties
PI US 5969106 October 19, 1999
SO Official Gazette of the United States Patent and Trademark Office Patents, (Oct. 19, 1999) Vol. 1227, No. 3. e-file.
CODEN: OGUPE7. ISSN: 0098-1133.
DT Patent
LA English
ED Entered STN: 6 Jul 2000
Last Updated on STN: 7 Jan 2002
AB A **polypeptide** is provided that has a secondary **structure** characterized by at least **three beta-sheet/ beta-turn structures**, and that is not a naturally occurring **fibrous protein**. Such polypeptides, illustrated by one modeled on **elastin**, are useful in prosthesis.

L13 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 4
AN 1998:112383 CAPLUS
DN 128:196706
TI Self-aligning peptides derived from **elastin** and other fibrous proteins for use in prostheses
IN **Rothstein, Aser**; **Keeley, Fred W.**; **Rothstein, Steven J.**
PA Protein Specialties, Ltd., Can.; Hospital for Sick Children
SO PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9805685	A2	19980212	WO 1997-CA560	19970807
	WO 9805685	A3	19980430		
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2262446	AA	19980212	CA 1997-2262446	19970807
	AU 9738438	A1	19980225	AU 1997-38438	19970807
	AU 728480	B2	20010111		
	EP 922058	A2	19990616	EP 1997-935396	19970807
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	US 5969106	A	19991019	US 1997-911364	19970807
	JP 2001505539	T2	20010424	JP 1998-507419	19970807
PRAI	US 1996-23552P	P	19960807		
	US 1997-911364	A	19970807		

WO 1997-CA560 W 19970807

AB A **polypeptide** is provided that has a secondary **structure** characterized by at least **three beta-sheet/beta-turn structures**, and that is not a naturally occurring **fibrous protein**. Such polypeptides, illustrated by one modeled on **elastin**, are useful in prosthesis.

L13 ANSWER 6 OF 6 MEDLINE on STN DUPLICATE 5

AN 93123269 MEDLINE

DN 93123269 PubMed ID: 7678258

TI Characterization of **lamprin**, an unusual matrix protein from lamprey cartilage. Implications for evolution, structure, and assembly of **elastin** and other fibrillar proteins.

AU Robson P; Wright G M; Sitarz E; Maiti A; Rawat M; Youson J H; **Keeley F W**

CS Division of Cardiovascular Research, Hospital for Sick Children, Toronto, Ontario, Canada.

SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1993 Jan 15) 268 (2) 1440-7. Journal code: 2985121R. ISSN: 0021-9258.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

OS GENBANK-L05924; GENBANK-L05925; GENBANK-L05926

EM 199302

ED Entered STN: 19930226
Last Updated on STN: 19980206
Entered Medline: 19930205

AB **Lamprin**, an insoluble non-collagen, non-**elastin** protein, is the major connective tissue component of the fibrillar extracellular matrix of lamprey annular cartilage. Here we demonstrate that the soluble monomer of **lamprin** is a family of highly hydrophobic, self-aggregating proteins with molecular masses of 12 and 10 kDa. Two mRNAs for soluble **lamprin** were identified (0.9 and 2 kilobases), differing principally in the length of their 3'-untranslated tails. Variants of soluble **lamprin** appear to arise both as the products of multiple genes and by alternate splicing. Although not generally homologous to any other protein, soluble lamprins contain a tandemly repeated **peptide** sequence (GGLGY) which is present in both silkmoth chorion proteins and spider dragline silk. Strong homologies to this repeat sequence are also present in several mammalian and avian elastins. Monoclonal antibodies to VGVAPG, a repeated sequence in human **elastin**, also cross-react with **lamprin**. We suggest that these proteins share a structural motif which promotes self-aggregation and fibril formation in proteins through interdigitation of hydrophobic side chains in **beta-sheet/beta-turn structures**, a motif that has been preserved in recognizable form over several hundred million years of evolution.

=>

---Logging off of STN---

=>
Executing the logoff script...

=> LOG Y

STN INTERNATIONAL LOGOFF AT 15:54:44 ON 19 OCT 2003